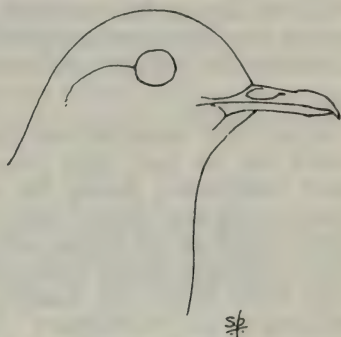


and the Oxford University Expedition in 1953 (Galbraith and Galbraith, 1962) failed to encounter it there. Although Meek's San Cristoval bird collection, a small one of about 180 skins from an unspecified locality, was not written up by Rothschild and Hartert as most of his other collections were, I assume that, had there been a specimen of *G. salamonis* amongst Meek's skins, it would have been remarked upon.



Gallicolumba salamonis



Gallicolumba stairi

Heads of *Gallicolumba salamonis* and *G. stairi*, $\times 1$, to show bill sizes.

As *Gallicolumba salamonis* has apparently never been figured, I include a sketch of the head to indicate the bill size as compared to a more typical member of the genus, *G. stairi* of Fiji and Samoa.

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Observations on wildfowl on the Batinah Coast, Muscat and Oman, south-east Arabia 1962-1967

by CARL SETON-BROWNE AND JEFFERY HARRISON

With supplementary observations from Dhofar compiled from notes by Colonel A. D. Lewis and Richard Matson

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Introduction

Attention has recently been focussed on the status and distribution of wildfowl in the Middle East. This was crystallised by Professor H. A. Isakov, representing Russia, at the Second European Meeting on Wildfowl Conservation held in Holland in May, 1966, when he pointed out that

if adequate steps were to be taken to conserve the whole European breeding wildfowl population, the International Wildfowl Research Bureau would have to extend its activities eastward to cover the whole of the Indian sub-continent and southward in Africa to Lake Chad and the Middle Niger, so that all the wintering grounds could be studied.

Christopher Savage has already made an important start towards a Wildfowl Survey in south-west Asia (1965, 1966, 1967), but at present there is very little known about the wildfowl position in south-east Arabia, other than the brief and very incomplete details available in Meinertzhagen's

Birds of Arabia.

Major Carl Seton-Browne has been serving on the Batinah Coast of Oman for the past eight years and much of his free time has been spent wildfowling during the winter months. Since 1963 he has been co-operating very closely with Jeffery Harrison in Britain in keeping a close record of the status and distribution of wildfowl in the area. A number of other British personnel have been serving in the area during this time, from which was formed the Batinah Gun Club, which became affiliated to the Wildfowlers' Association of Great Britain and Ireland. Acknowledgments to all who have helped in collecting the data for this paper will be found at the end.

In all, 18 species of wildfowl have been recorded, of which six were not recorded by Meinertzhagen for the whole Arabian peninsula. Of the remaining 12 species, nine were not recorded for Oman. Those new to Arabia are marked with an asterisk.

In view of the extreme paucity of published data about wildfowl in this area, it seems desirable to list their main haunts with a brief description of each.

Notes on the Batinah Coast of Oman.

This is a green, fertile belt of date and vegetable gardens extending in places up to three miles inland and running north from the town of Muscat some 200 miles to Murier on the borders of the Trucial Oman States. Low-lying flat country extends further inland in vast gravel plains to the foothills some 15 miles distant. These are covered with acacia trees, scrub bushes and in normal times a fair amount of other vegetation. In places the plains are broken up with masses of small wadis, gullies and ravines, which run down from the hills to the sea.

Khors and wadis

A khor is an inland lake or lagoon normally formed by the sea overflowing the top of the beach and filling up a depression. Sand bars can then build up closing the khor from the sea and in the course of time the water becomes brackish and vegetation appears along the sides of the khor. In some cases, the khor may be two or three miles long and a mile or more wide; in others it may only be a few hundred yards long and 20 yards wide.

A wadi is a gully or shallow ravine bringing rain water down from the hills. At the mouth of the wadi where it enters the sea there is normally a pool of fresh water which on high tides becomes brackish. These pools are used by waders and duck from August to March. They normally hold water, brackish or otherwise, all the year round, but in the event of a poor

rainy season, will dry up. Some appear to be fed by springs and hold water all the year, whilst others dry up for no apparent reason. In some cases a wadi mouth can be closed by the formation of high sand bars and the wadi can then become a khor.

Khor Khashmir

This lies one mile north of the village of Sohar and is adjacent to the beach. Nearly a mile long and six hundred yards at its widest point, it is brackish, but fed by a spring and is up to five feet deep. It has never been dry, but twice in the past nine years the banks have burst and the sea has come in. This is probably the best khor along the Batinah Coast for wildfowl.

Khor Ghaleel

This lies 47 miles to the south of Sohar. It is formed by the Wadi Ghaleel and was closed to the sea some years ago by the formation of a heavy sand bar. It always has fresh water and is much used by waders and duck, being shallow and no deeper than two feet.

Khor Dhian

This lies fifty miles south of Sohar and is a beautiful piece of fresh or brackish water half a mile long by quarter of a mile wide. Formed by the Wadi Dhian, it has never been dry in the history of Oman. Being quite deep in the middle (probably ten feet) it is favoured by the larger duck such as Mallard and Wigeon.

Khor Sur Baluch

A tiny piece of brackish water which lies some 20 miles north of Sohar. Although only 200 yards long and ten yards wide, duck like it.

Khor Bu Bakra

A small stretch of land-locked brackish water, rather isolated and used by most species of duck and waders, but is normally dry during the summer months.

Khor Salaghin

Another small area of land-locked water not far south of Bu Bakra. Normally dry in summer, but fed by a wadi during the rainy season, it is 100 yards long and ten yards wide. Favoured by duck and waders.

Khor Kelba

Not a wadi, but a huge khor and mangrove swamp, which is situated just over the northern border of Oman and which is really in the Trucial Oman States and not in Oman proper. It lies 50 miles north of Sohar and runs for about four miles, being fed by the sea and liable to flood at high tide. It is frequented by numerous flamingos and at times holds thousands of waders, but is not much used by duck.

Wadi Kharbora

This lies 32 miles south of Sohar and consists of a normal wadi running

down to the sea from the hills. There is a good stretch of fresh or brackish water at the mouth, which always holds duck or waders in season and is a favourite haunt of watering sandgrouse and Collared Doves. It never dries out.

Wadi Asafin

A normal wadi mouth running down to the sea from the hills. There is a pool of fresh water during the rainy season, which dries up during the summer. Situated some 25 miles north of Sohar it holds duck and waders during the season.

Wadi Umm al Enna

A small pool at the wadi mouth fed by rains and situated some 20 miles north of Sohar, which dries in summer. Much frequented by waders and duck.

Wadi Houbara

This lies 18 miles south of Sohar. A normal wadi mouth has formed which holds a fair-sized pool of brackish water all the year round, surrounded by lush grass much favoured by Wigeon. Most species of duck have been shot at this wadi.

Wadi Shinas

This lies 38 miles north of Sohar. Shinas is one of the principal towns of the Batinah Coast. Wadi Shinas is the mouth of five wadis which run down from the hills and converge on Shinas. This is an attractive stretch of brackish water, nearly a mile long and half a mile wide in places. Considerable numbers of duck normally use the wadi, but during the season 1967-1968 no duck have been seen there. No explanation for this can be given, for the wadi is isolated and in former years has been well used.

Wadi Suwera

A normal wadi running down from the hills, eight miles south of Sohar. It provides a permanent pool of brackish water. Being close to the village of Suwera it is not much used by the larger duck, but is well used by Teal and Garganey and occasional Tufted Duck. There are nearly always a few Coot in winter. Some reed cover is established and it is surrounded by grass.

Wadi Salan

A huge wadi embracing probably seven wadis including the Wadi Jizzi. At the mouth, which is a mile wide, it runs out to the sea over vast sand flats, which at low tide are exposed to a distance of over a mile. It has fresh water all the year and lies five miles north of Sohar. It is favoured by many duck, particularly Mallard and Wigeon, as well as thousands of waders, gulls and terns.

Wadi Saham

A huge wadi similar to Wadi Salan. Situated 16 miles south of Sohar; vast sandbanks are exposed at low tide. It is over a mile wide at its mouth

and holds a permanent sheet of water nearly a mile long. All types of duck use this wadi and numerous waders.

Wadi Zaharan

Another typical wadi running down from the hills to the sea, six miles north of Sohar. There is a small pool of fresh water during the rainy months only. It is isolated and well used by duck and waders.

Wadi Majiz

A normal wadi, 11 miles north of Sohar. There is a good-sized brackish pool nearly all the year round, visited by ducks, particularly Teal during some seasons, but none was shot there during 1967-68.

Wagjah Pools

Not really a wadi, but inland pools of fresh water caused by rain, situated on the northern frontier of Oman and some 15 miles from the sea. Teal have been seen there, but normally frequented by watering sand-grouse.

Wadi Sheikh's Tomb

Situated three miles south of Sohar, this is usually closed to the sea, but in 1967 it was breached by flood water. Normally it holds fresh water all the year round and is very narrow and long with gardens on both sides and growing lush grass and other vegetation. Most species of duck have been seen there.

Wadi Jizzi

This is the main caravan route from the Batinah to Buraimi Oasis, as used for thousands of years. There are 72 miles of ravines, with numerous pools of beautiful fresh water all the year round. Duck use all of it, as do waders. The mouth of this water forms Wadi Salan.

Quram—Muscat

A marshy area which lies 15 miles to the north of Muscat, formed by rain water. Some mangrove grows here and lush grass, but it dries out in some years.

Swaiq

One of the principal towns of the Batinah Coast situated 60 miles south of Sohar. There is a large marshy area just to the south of the town which holds a lot of duck in some years.

Nizwa

The old capital of Oman lying deep in the interior. A green and pleasant place not far from Jebel Akhdar. There are numerous pools of fresh water in wadis, which hold a lot of duck on occasions.

Sib

An important village on the Batinah, 35 miles north of Muscat. Three wadis running down from the hills hold duck quite frequently.

The weather on the Batinah

In a normal season, there would be only one or two days rain in each month from September-February inclusive. This was so from 1959-1961 inclusive, but 1962 was dry and 1963 abnormal, with heavy rain and freak storms in May. This gave rise to the heaviest rainfall for ten years, which was followed by a most profuse growth of vegetation, which lasted well into the following year. Wildfowl migration was very marked in the late autumn of 1963.

The next year, 1964, saw the start of a four year drought, which caused all the vegetation to die and this was not broken until January, 1968.

*Species List***Grey Lag Goose Anser anser ssp.*

This species has been identified singly in the field as follows:—

27th November, 1962	Wadi Saham
12th November, 1964	Kor Ghaleel (Col. A. D. Lewis)
27th November, 1964	15 miles south of Kharbura

**White-fronted Goose. Anser albifrons ssp.*

An adult was shot at Khor Dhian on 16th November, 1962. This bird was photographed and the photographs have been examined by J.G.H. Two others were seen at Khor Khashmir only four days later.

Ruddy Shelduck. Tadorna ferruginea Pallas

A rare winter visitor to the Batinah, having occurred in four winters between 1962-1963 and 1967-68.

One which was shot at Khor Khashmir on 30th September, 1962 was probably the same bird which had been seen on Wadi Salan the previous day. A first winter drake was shot from a party of four, in company with three Pintail and eight Teal on Khor Ghaleel on 3rd November, 1964. Two more were shot on Khor Ghaleel on 27th November, 1964 and two others were seen on Wadi Saham. Probably the same two were seen on Wadi Shinas three days later.

A party of four was found on Wadi Salan on 13th January, 1967, and single birds were seen there on 7th February and at Wadi Salan on 2nd March, 1967. Another was present at Khor Khashmir on 18th October, 1967

**Shelduck Tadorna tadorna (Linnaeus)*

An unusual winter visitor to Oman, in small numbers, as the following records show:—

29th October, 1962	One	Khor Khashmir
9th November, 1962	Seven	Wadi Saham
19th December, 1962	Two	Wadi Saham
Early December, 1964	One	Sib, near Muscat (Col. A. D. Lewis)
15th December, 1964	1st winter ♂	Shot Khor Ghaleel (one of a pair)
17th December, 1964	One, 1st winter	Seen and eventually shot Wadi Saham
1st January, 1965		
28th November, 1967	1st winter ♂	Shot Wadi Salan

Pintail Anas a. acuta Linnaeus

This species is a regular autumn passage migrant on the Batinah in small



Photographs by David Harrison

Wildfowl habitat on the Batinah.

Above: Khor Khashmir.

Below: Wadi Sheikh's Tomb.



numbers. There is only one August record of a single bird shot on 20th in 1961. Four were seen at Khor Shinas on 4th September, 1965 and one on 10th. It is most regularly seen from the second half of September until the end of November and has been recorded on all the khors and wadis. The maximum on any one day was 30, on 22nd October, 1967 at Wadi Saham.

The only December records were:—in 1963—three on 21st; in 1964—three on Wadi Shinas on 3rd December and singles on Wadi Kharbura on 8th and Khor Ghaleel on 15th; and in 1967, three on Wadi Saham on 12th, one the next day and another on Khor Dhian on 25th December. There are no January records, but there is evidence of a return migration through the Batinah. In 1962, one was seen on 1st February and a pair on 12th, as well as a further pair on 6th March. A drake was seen at Wadi Salan on 4th February, 1966 and a pair there on 14th. One was seen at Khor Khashmir on 15th February, 1967, another at Wadi Salan on 25th and one at Wadi Salan on 2nd March, 1967. A duck at Wadi Sheikh's Tomb on 5th April, and another at Wadi Salan on 15th April, are the latest recorded.

Of the wings examined two were first year drakes and two were ducks.

Teal. *Anas c. crecca* Linnaeus

This duck is a common winter visitor to the Batinah, arriving mainly about mid-September, the only August record being one on 18th August, 1962 on Khor Khashmir. Although a number winter in the area, many parties have been observed moving further on, following the coast, particularly in September and October.

Teal frequent all the suitable khors and wadis throughout the Batinah, the peak numbers seen in December and January, although the largest flock on any one water seldom exceeds 50. However, there are a number of suitable areas and Teal have been recorded regularly on the following: Wadis Salan, Saham, Shinas, Zajaran, Asafin, Kharbura, Suwera, Wagjgah and Majiz, and Khors Ghaleel, Khashmir, Dhian, Salghin, al Shoah, Bu Bakra and Sur Baluch. It is thus the most widespread duck wintering on the Batinah coast, which probably holds at least 1,000 Teal in normal times. In the drought conditions at the close of 1967 Teal were in much smaller numbers than usual, the biggest numbers being seen in November and the largest party being 46, at Wadi Saham on 7th. Numbers fell away in December and by the end of the year virtually all had left the Batinah.

Most Teal have normally left the Batinah by mid-February, but in 1967 they were exceptionally late. On 2nd March, 43 were still present on Wadi Saham, 11 on Wadi Salan and three on Wadi Kharbura. A pair was seen at Wadi Saham on 14th March; there were nine on Khor Shinas on 29th March; ten on Khor Khashmir on 2nd April and six on Wadi Saham on the same day.

Of the wings examined, two were adult males, three were adult females, seven were first year males and seven were first year females.

Mallard. *Anas p. platyrhynchos* Linnaeus

The Mallard is a regular visitor to the Batinah in small numbers, having been recorded from 15th October to 12th March. One near Swaiq on 13th June, 1967, was probably a wounded bird. It has been recorded on all the

wadis and khors, most frequently in November and December, suggesting that these birds may be moving on to the south. The most seen on any one day has been six.

Gadwall. *Anas s. strepera*. Linnaeus

The Gadwall is an irregular winter visitor to the Batinah in small numbers having been recorded as follows:—

10th February, 1962	One	Khor Khashmir
16th November, 1962	One	Khor Dhian
15th December, 1962	One	Khor Khashmir
28th December, 1962	One	Wadi Salan
18th January, 1963	Five	Khor Khashmir
20th November, 1964	1st winter ♂	Shot Khor Ghaleel
23rd November, 1964	Four	Wadi Shinas
26th December, 1964	Five	Wadi Kharbora
1st January, 1965	Two	Khor Ghaleel
3rd February, 1967	One	Wadi Saham
2nd March, 1967	Two	Wadi Saham
3rd April, 1967	Two	Khor Khashmir

Wigeon. *Anas penelope* Linnaeus

This is one of the later ducks to arrive on the Batinah in autumn. The earliest recorded were six on Khor Ghaleel on 20th October, 1964 and ten on Khor Khashmir. Regularly seen from November to January in small numbers (maximum nine) on those two khors, and on Wadi Salan, Wadi Shinas, Wadi Saham and Wadi Suwera. The first record in the autumn of 1967 was one on Wadi Saham on 9th November. Eight days later there were four on Khor Dhian and three on Wadi Saham. From then until the end of the year, four were the most seen in any one day. There is only one record for February—a female at Wadi Salan on 4th February, 1966. Late records, probably returning migrants, include three at Wadi Salan and two at Wadi Kharbora on 2nd March, 1967 and the latest of all, a female at Wadi Salan on 30th April, 1967.

Garganey. *Anas querquedula* Linnaeus

This species is always the first to arrive in numbers on the Batinah in autumn; it is then seen regularly until early October, with stragglers into early November. In some seasons large numbers have been seen moving south-eastwards off shore, apparently without stopping, but there is considerable annual variation.

1962. First seen on 13th August. A flock of 200–250 was seen heading south off Wadi Saham on 11th September and a party of 25 was found on Khor Khashmir on 17th September. The last were seen on 26th October.

1963. This autumn followed prolonged and severe heat and the heat had also been exceptional as far north as Iraq. Duck arrived late in Oman; one flock of about 60 Garganey was seen near Muscat on 15th September and 15 at Wadi Salan on 26th October, while there were a few on Khor Khashmir on 1st November.

1964. Similar conditions prevailed in 1964 and duck were again late in appearing on the Batinah. Seven Garganey were seen at Swaiq on 29th September, and up to three were seen at Wadi Salan, Wadi Saham, Wadi Shinas and Khor Dhian until 24th October.

1965. The first was seen at Wadi Saham on 14th August and small numbers thereafter including 11 at Qurum, near Muscat, from which Colonel A. D. Lewis shot two on 25th August. Numbers increased in September, reaching a peak between 19th September when 23 were found on Khor Ghaleel, 21 on Wadi Saham and four on Wadi Suwera and 30th, when 42 were present on Wadi Suwera and 22 on Wadi Saham, by which time there were reports of small numbers all along the Batinah coast and as far inland as Nizwa, Wadi Jizzi and Wadi Kelba. Five were seen at Khor Hai, to the east of Sib on 17th October and the last two at Khor Shinas on 22nd October.

1966. An adult drake at Khor Dhian on 1st August heralded the most remarkable autumn migration through Oman, which reached a peak in September when on the 7th huge flocks amounting to many hundreds were seen flying south between Sohar and Saham. On 17th, 150 were resting on Khor Dhian. Next day 200 were seen flying south-east off Sohar at dusk. Large scale coastal migration was seen again on 28th September, 3rd and 4th October, including six flocks of about 100 on 4th. Next day seven flocks of 60–100 birds flew south-east over Wadi Suwera and a similar movement on a slightly reduced scale was noted until 8th. Numbers then decreased sharply but eight were recorded at Wadi Suwera and five at Khor Khashmir on 22nd October. Three single birds were shot in November, the last on the 16th at Wadi Suwera.

1967. The first was recorded on 13th August at Khor Khashmir. From then, Garganey were regularly recorded on the khors and wadis of the Batinah until 22nd October, but in smaller numbers than usual, in a very dry season, with a maximum of only 11 at Khor Khashmir on 22nd September and nine at Wadi Sheikh's Tomb on 22nd October. However, during most days of September, between the hours of 1400–1700, numerous packs of Garganey were observed heading south down the Batinah coast, flocks ranging from 25–200 birds.

Late records included eight at Wadi Suwera on 7th November; two at Khor Dhian on 14th November; one at Khor Khashmir on 19th November; three at Khor Dhian on 9th December; one at Khor Khashmir on 23rd December and seven at Wadi Sheikh's Tomb on 26th December. These records are exceptionally late and are all the more surprising as the Batinah was by then suffering an extremely severe drought.

Return migration is on a greatly reduced scale. In 1963, a single bird was seen on the Batinah on 22nd–23rd February; two on 21st April and one on 23rd. In 1967, two were seen at Wadi Salan on 25th February and a further pair on 6th March.

Of the wings examined, five were adult males, two were adult females and two first year females.

Shoveler. *Anas clypeata* Linnaeus

Although the Shoveler can be expected to arrive on the Batinah regularly with the Teal in mid-September, a few have been recorded earlier. There are four August records—26th August, 1961, one shot at Khor Khashmir and on 28th August, 1965. On 25th August, 1966, a drake was shot at Wadi Saham, which was very thin and had obviously only recently arrived, while another was seen there five days later. Occasionally Shovelers are much later arrivals, as in 1963, following the prolonged heat, when the only records for the whole winter were of two shot at Wadi Saham on 26th October and one shot at Swaiq on 25th January, 1964. They were late again in the following autumn, the first arrivals being seen on 17th October.

Shovelers are most regularly seen from mid-October to mid-December, but only in small numbers up to 12. They occur on all the wadis and khors. There are only four reports for January, which suggests that this species moves further on at this time.

In 1967, the first Shoveler was not seen on Khor Khashmir until 23rd September, but on 30th there were 18 on that water, falling to 11 next day and three the day after. From then on, the pattern was much as usual, but all had gone by December, except for one on Khor Khashmir on 29th December.

There is some evidence of a return migration for in 1962, up to three Shovelers were seen on the Batinah between 6th February and 11th March and one on 15th April. Single birds were seen on 23rd April, 1963 and 28th March, 1967 at Khor Khashmir.

Wings examined have included two adult males, one adult female, two first year males and one female.

***Red-crested Pochard. *Netta rufina*. Pallas**

The only records are for 1964. A male and female were shot at Wadi Shinas on 18th November and another pair from three birds on 8th December at Khor Ghaleel. Four days later, three were seen at Wadi Shinas and on 15th December there were two at Khor Ghaleel.

Pochard. *Aythya ferina* Linnaeus

This species is probably fairly regular on the Batinah in early winter. A female was shot on 7th November, 1963 on Khor Khashmir. Ten were seen there on 20th November, 1964 and again a week later, while seven, possibly some of the same birds, were seen at Wadi Saham on 24th November. From one to five birds were seen at Wadi Salan, Wadi Kharbura Khor Khashmir and Khor Ghaleel during December. In 1966, six were shot between 1st November and 16th November on Khor Khashmir.

In 1967, one was present on Khor Khashmir on 13th October and four more on 20th; two were seen at Wadi Sheikh's Tomb on 6th November, four at Khor Khashmir on 8th, three on Khor Ghaleel on 17th and three at Khor Khashmir on 20th. The only December record is of two at Wadi Sheikh's Tomb on 15th.

Only 13 were seen in the autumn and winter of 1967, no doubt due to the very severe drought which by then had affected the Batinah coast for the past two years. This doubtless accounts for the fact that no Gadwall, Red-crested Pochard or Shelduck were seen at this time and the generally

poor showing of Wigeon and Pochard. On 3rd January, 1968, the only duck seen when motoring for 130 miles southwards from Sohar were 14 Teal near Khor Dhian and by 23rd January there were no duck anywhere.

Of eight wings examined, three were drakes.

Ferruginous Duck. *Aythya nyroca*. *Güldenstädt*.

Three have been shot, all within a month, as follows:—

11th November, 1962	Khor Khashmir
16th November, 1962	Khor Dhian
4th December, 1962	Khor Khashmir

Tufted Duck. *Aythya fuligula*. *Linnaeus*.

This is a regular winter visitor in small numbers. Three were seen on Khor Khashmir on 28th February, 1962, eight on 2nd November and 27 on 6th November, 1963. In 1964, five were found at Wadi Shinas on 18th November, one at Wadi Zajaran next day and four at Wadi Asafin on 23rd. Six more were recorded on 8th December. Three singles were seen in 1965; on 12th October at Wadi Suwera; 25th December at Wadi Salan and 31st at Khor Kharbora. The same applied in 1966; one at Khor Khashmir on 6th October and 20th November and one at Wadi Salan on 28th October.

In 1967 there were rather more records than usual, starting with 12 on Wadi Sheikh's Tomb on 23rd October. From then until 12th December there were 10 records of ones and twos from there and on Khors Khashmir, Dhian and Sahan and Wadi Suwera.

The fact that all these records except one fall between 6th October and 31st December suggests the possibility that these birds may be on passage and the one February record could be of returning migrants.

*Indian Pigmy Goose. *Nettapus c. coromandelianus* *Gmelin*.

A first winter female was shot by C.S-B. on 15th December, 1967 on Khor Dhian. This is the first record for Arabia and the most westerly ever recorded. It was a lone bird in company with a Coot *Fulica a. atra* *Linnaeus*.

It is of considerable interest that another Indian species, the Pheasant-tailed Jacana *Hydrophasianus chirurgus* *Scopoli* had been shot by C.S-B. on Khor Khashmir on 9th December, which was only the second record for Arabia and the first for Oman. On the same day that the Pigmy Goose was collected, a Red-necked Phalarope *Phalaropus lobatus* *Linnaeus*, which winters in the northern Indian Ocean was also obtained on Khor Dhian, while only two days prior to this a Spotted Crake *Porzana porzana* *Linnaeus* was obtained on Khor Khashmir. This is only the second record for Oman and is another species which winters in northern India. It seems possible therefore that there may have been suitable weather conditions to cause a westerly drift into Arabia.

*Spur-winged Goose. *Plectropterus gambensis*. *Linnaeus*.

Five birds seen at Wadi Saham on 6th January, 1963, were identified as being this species by C.S-B., who knew this distinctive bird well in Africa.

*Common Scoter. *Melanitta n. nigra*. Linnaeus.

One shot near Swaiq on 27th November, 1962 and another at Khor Khashmir next day. One of a pair shot at sea off Sohar on 29th January, 1963.

Supplementary observations from the Salalah area, Dhofar Province.

Compiled from notes by Colonel A. D. Lewis and Richard Matson

Salalah is situated on the south coast of Muscat and Oman, about 500 miles south of the capital, Muscat. There are about 15 khors along the Salalah coastal plain, which extends between mountainous regions for a distance of about 40 miles. From the air it was possible to see that some of these khors held duck, but others appeared empty.

The hills give rise to a local monsoon season lasting from the end of May until mid-August, during which time there is almost continuous drizzle. As a result there is much more water in this area than in northern Oman.

Colonel Lewis was able to visit two of these khors. Khor Salalah and Khor Marmorah on either side of the town of Salalah. This area was visited about every six weeks from late 1964 until early 1967. Duck were only found on these khors between the months of October and February, which is a noticeably shorter time than they spend in northern Oman. The only exception to this was a lone duck Mallard on a khor about 12 miles west of Salalah in April, 1965. When disturbed it flew strongly out to sea.

The two khors, Salalah and Marmorah are bigger and have more cover than those in northern Oman. There is a great deal of submergent growth and an abundance of mosquitoes.

The following details are taken from Colonel Lewis's game book:—

21st December, 1964. Khor Marmorah.

3 Wigeon	1 Shoveler
4 Teal	1 Tufted Duck

4th–5th November, 1965. Khor Salalah.

2 Teal

8th November, 1965. Khor Marmorah

1 Mallard	1 Wigeon
1 Teal	1 Pochard

17th December, 1966. Khor Salalah.

1 Teal

18th December, 1966. Khor Marmorah.

1 Teal	3 Pochard
1 Garganey	1 Tufted Duck
1 Shoveler	

19th December, 1966. Khor Salalah.

2 Pintail	1 Teal
3 Wigeon	3 Tufted Duck

19th December, 1966. *Khor Marmorah.*

1 Wigeon

1 Shoveler

20th December, 1966. *Khor Salalah.*

1 Teal

11th February, 1966. *Khor Marmorah.*

4 Pintail

3 Shoveler

6 Teal

2 Tufted Duck

2 Garganey

12th February, 1966. *Khor Marmorah.*

2 Pintail

3 Teal

1 Wigeon

3 Shoveler

These bags reflect on the commoner species present. On 18th December 1966, it was estimated that there were 600 duck in all on Khor Marmorah. Coots were also extremely plentiful on both khors.

In general, the Mallard was the least common of the species shot and no other species apart from those listed in the game book was ever seen or reported.

Richard Matson was in Salalah in mid-winter 1965-1966 and on one khor he estimated that on an average day there were 300 Wigeon, 100 Shoveler, 50 Pintail and smaller numbers of Teal, Garganey, Pochard and Tufted Duck amounting in all to about a further 100 duck. One Gadwall was also shot here and a single female Ferruginous Duck in December, 1965.

It is believed that these are the first observations ever to be made in Dhofar Province.

Discussion

While it is highly likely that the khors and wadis of Muscat and Oman provide a wintering ground for a number of the duck mentioned in this paper, especially Teal, others, in particular Garganey, are quite obviously passage migrants. Furthermore, the southward passage in autumn is much more marked than the return migration in spring.

The species now recorded in Oman are virtually unstudied so far as their movements are concerned and there are no ringing recoveries as yet to help to provide some of the answers. If one considers the winter distribution maps as given in Delacour's volumes *The Waterfowl of the World* however, it becomes obvious that the majority of the species occurring in Oman represent only a short southward extension of range across the Gulf of Oman from Persia and in most, the normal wintering range extends south-eastwards into the Indian sub-continent.

The species which fit into this category and which probably move on in this direction from Oman include the Ruddy Shelduck, Shelduck, Mallard, Teal, Wigeon, Pintail, Gadwall, Shoveler, Red-crested Pochard, Pochard, Tufted Duck and Ferruginous Duck.

Most of these species do not have a normal winter distribution in Somalia and southwards to East Africa, although the Pintail and Shoveler both move down the Nile valley to reach Lake Victoria. The Ferruginous Duck winters in S.W. Arabia and Somalia, but it is unlikely that any of these three species should reach their winter quarters in these parts other than by way of the Nile and Red Sea, which provide the obvious flyways. The only species which is widely distributed not only in the Indian sub-continent but also along the southern Arabian coastline and in East Africa, is the Garganey.

Garganey in autumn passing south-eastwards along the Batinah coast could possibly be heading either towards India or Africa, but if the latter, then there would have to be an abrupt alteration of direction to a south-westerly direction. Although this is by no means impossible, it is certainly the least likely of the two alternatives.

The records of the Grey Lag and White-fronted Goose are the most southerly yet recorded; that of the Spur-winged Goose, a sedentary African species is the most easterly and the Indian Pigmy Goose the most westerly record. This species is stated by Delacour to be largely sedentary except for the most northerly populations (particularly in China) which move south in winter. The Common Scoter has been recorded as a casual visitor to the Caspian and Black Seas.

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